

Exhibit C

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN CHEMICAL MECHANICAL
PLANARIZATION SLURRIES AND
COMPONENTS THEREOF**

Investigation No. 337-TA-1204

PUBLIC COMMISSION OPINION

Table of Contents

I. Introduction	3
II. Background.....	3
A. Procedural History.....	3
B. Overview of the Technology.....	7
C. The Accused Products	8
D. Domestic Industry Products	9
III. Analysis of Issues Under Review.....	9
A. Importation	9
1. Complete Optiplane™ 2300 and 2600 Slurries	10
2. BS-3 Particle (Component)	11
B. Infringement	13
1. Findings Related to Violation Based on Direct Infringement	13
2. Findings Related to Violation Based on Indirect Infringement.....	15
C. Economic Prong Requirement of Domestic Industry	19
D. Conclusion Regarding Violation.....	21
IV. REMEDY	21
A. Limited Exclusion Order.....	22
1. The Parties' Submissions.....	23
2. The Appropriate Remedy	25
B. Cease and Desist Orders.....	27
C. The Public Interest	29
1. The Parties' and Intel's Submissions.....	30

2. The Public Interest Warrants a One-Year Delay for Current Ongoing Semiconductor Chip Fabrication Development Projects in the United States	42
i. Public Health and Welfare.....	43
ii. Competitive Conditions in the United States Economy	44
iii. The Production of Like or Directly Competitive Articles in the United States	50
iv. United States Consumers	51
v. Conclusion	52
vi. Certification Process to Qualify for the One Year Exemption for Ongoing Semiconductor Chip Fabrication Development.....	53
D. Bond	54
V. CONCLUSION	55

I. INTRODUCTION

On September 22, 2021, the Commission determined to review in part the final initial determination (“ID”) issued by the presiding administrative law judge (“ALJ”) on July 8, 2021. 86 Fed. Reg. 53674-76 (Sept. 28, 2021). On review, the Commission has determined to affirm, with modifications, the ID’s finding that there has been a violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337. Having found a violation of section 337, the Commission has determined to issue a limited exclusion order and cease and desist orders as set forth *infra*. The Commission finds that the public interest does not preclude the issuance of remedial orders, but warrants a delay of up to one year to allow entities currently using the infringing products in an ongoing semiconductor chip fabrication development project adequate time to switch to a non-infringing alternative. The Commission sets a bond in the amount of one hundred percent of entered value for infringing products imported during the period of Presidential review.

This opinion sets forth the Commission’s reasoning in support of that determination. The Commission adopts the remainder of the ID that is not inconsistent with this opinion.

II. BACKGROUND

A. Procedural History

On July 7, 2020, the Commission instituted this investigation based on a complaint filed by Cabot Microelectronics Corporation (“CMC”) of Aurora, Illinois. 85 Fed. Reg. 40685-86 (July 7, 2020). The complaint, as supplemented, alleged violations of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain chemical mechanical planarization (“CMP”) slurries and components thereof, including colloidal silica abrasive particles, by reason of infringement of one or more of claims 1, 3-6, 10, 11, 13, 14, 18-20, 24, 26-29, 31, 35-37, and 39-44 of U.S. Patent No.

9,499,721 (“the ’721 patent”). *Id.* at 40685. The Commission’s notice of investigation named as respondents DuPont de Nemours, Inc. of Wilmington, Delaware; Rohm and Haas Electronic Materials CMP, LLC of Newark, Delaware; Rohm and Haas Electronic Materials CMP Asia Inc. (d/b/a Rohm and Haas Electronic Materials CMP Asia Inc., Taiwan Branch (U.S.A.)) of Taoyuan City, Taiwan; Rohm and Haas Electronic Materials Asia-Pacific Co., Ltd. of Miaoli, Taiwan; Rohm and Haas Electronic Materials K.K. of Tokyo, Japan; and Rohm and Haas Electronic Materials LLC of Marlborough, Massachusetts (collectively, “Respondents” or “DuPont”). *Id.* at 40686. The Office of Unfair Import Investigations (“OUII”) is participating in this investigation. *Id.*

On October 1, 2020, the ALJ issued an initial determination granting CMC’s unopposed motion to amend the complaint and notice of investigation to assert infringement of claims 17 and 46 of the ’721 patent. Order No. 7 (Oct. 1, 2020), *unreviewed by* Notice (Oct. 16, 2020).

On November 10, 2020, the ALJ issued an initial determination granting CMC’s unopposed motion to amend the complaint and notice of investigation to change the name of Complainant from Cabot Microelectronics Corporation to CMC Materials, Inc (hereinafter “Complainant” or “CMC”). Order No. 8 (Nov. 10, 2020), *unreviewed by* Notice (Nov. 24, 2020).

On January 26, 2021, the ALJ issued an initial determination granting CMC’s unopposed motion to amend the complaint and notice of investigation to reflect the conversion of Rohm and Haas Electronic Materials, Inc. to Rohm and Haas Electronic Materials CMP, LLC. Order No. 13 (Jan. 26, 2021), *unreviewed by* Notice (Feb. 11, 2021).

On January 26, 2021, the ALJ issued an initial determination granting CMC’s unopposed motion to terminate the investigation as to claim 5 of the ’721 patent. Order No. 12 (Jan. 26, 2021), *unreviewed by Notice* (Feb. 16, 2021).

The ALJ held an evidentiary hearing from February 3-5, 2021, and received post-hearing briefs thereafter.

On July 8, 2021, the ALJ issued the final ID finding a violation of section 337. The ID found that the parties do not contest personal jurisdiction and that the Commission has *in rem* jurisdiction over the accused products. ID at 11. The ID further found that the importation requirement under 19 U.S.C. § 1337(a)(1)(B) is satisfied. ID at 11-30. The ID also found that CMC established the existence of a domestic industry that practices the ’721 patent. ID at 144-169, 297-314. The ID concluded that CMC proved that Respondent’s accused products infringe the asserted claims of the ’721 patent and that Respondents failed to show that the asserted claims are invalid. ID at 87-144. The ALJ’s recommended determination on remedy and bonding (“RD”) recommended that, should the Commission find a violation, issuance of a limited exclusion order and cease and desist orders would be appropriate. ID/RD at 316-331. The RD also recommended imposing a bond in the amount of one hundred percent (100%) of entered value for covered products imported during the period of Presidential review. RD at 331.

On July 29, 2021, DuPont and OUII filed separate petitions for review of the ID.¹ On August 12, 2021, CMC submitted responses to the petitions filed by DuPont and OUII, and OUII submitted a response to DuPont’s petition.²

On September 22, 2021, the Commission determined to review the ID in part. 86 Fed. Reg. 53674-76 (Sept. 28, 2021) (“Notice of Review”). Specifically, the Commission determined to review the ID’s findings on importation, infringement, and domestic industry. *Id.* at 53675. The Commission determined not to review the remainder of the ID. In connection with its review, the Commission requested briefing from the parties. *Id.* The Commission also requested briefing from the parties, interested government agencies, and other interested persons on remedy, the public interest, and bonding. *Id.* On October 6, 2021, the parties submitted their opening briefs.³ On October 13, 2021, the parties filed their reply briefs.⁴

¹ See Respondents’ Petition for Review of the Final Initial Determination (“DuPont Pet.”); Office of Unfair Import Investigations Petition for Review (“OUII Pet.”).

² See Complainant CMC Materials, Inc.’s Response to Respondents’ Petition for Review of the Final Initial Determination (“CMC Rep.”); Complainant CMC Materials, Inc.’s Response to OUII’s Petition for Review of the Final Initial Determination (“CMC OUII Rep.”); Office of Unfair Import Investigations Response to Respondents’ Petition for Review (“OUII Rep.”).

³ See Complainant’s Opening Submission on the Issues Under Review and on Remedy, the Public Interest, and Bonding (“CMC Sub.”); Respondents’ Brief to the Commission on Issues Under Review, Remedy and Bonding (“DuPont Sub.”); Response of the Office of Unfair Import Investigations to the Commission’s Request for Written Submissions on the Issues Under Review, Remedy, the Public Interest, and Bonding (“OUII Sub.”).

⁴ See Complainant’s Reply Submission on the Issues Under Review and on Remedy, the Public Interest, and Bonding (“CMC R.Sub.”); Respondents’ Reply Brief to the Commission on Issues Under Review, Remedy and Bonding (“DuPont R.Sub.”); Office of Unfair Import Investigations Reply Submission Regarding Issues Under Review, Remedy, the Public Interest, and Bond (“OUII R.Sub.”).

On October 6, 2021, non-Party, Intel Corporation (“Intel”) filed a statement on the public interest in response to the Commission’s notice.⁵ On October 8, 2021, Intel sent a letter to the Chair stating that it is in possession of a document that bears directly on the public interest impact of CMC’s requested remedy (“PI Document”) and that it would be in a position to provide the document if ordered to do so. On October 20, 2021, DuPont filed a response requesting that the Commission order Intel to produce the PI Document. On October 21, 2021, CMC filed a response in opposition. On November 2, 2021, the Commission issued a notice requesting additional public interest information from Intel and directing Intel to produce the PI Document.⁶ On November 9, 2021, Intel submitted a response to the Commission notice that included the PI Document.⁷ On November 15, 2021, the parties filed replies to Intel’s Submission.⁸

B. Overview of the Technology

The technology at issue relates to the chemical mechanical planarization process (“CMP process”) employed in the manufacture of semiconductor chips. The CMP process is used to smooth and flatten semiconductor layer surfaces by “removing excess, unevenly-surfaced

⁵ See Intel’s Statement on the Public Interest (“Intel Sub.”).

⁶ See Notice of Commission Determination Requesting Certain Information from Intel and Directing Intel to Produce Document Allegedly Bearing on the Public Interest; Extension of the Target Date (Nov. 2, 2021).

⁷ See Intel’s Reply to the Commission’s Questions on the Public Interest (“Intel R.Sub.”).

⁸ See Complainant’s Response to Intel’s Reply to the Commission’s Questions on the Public Interest (“CMC I.Reply”); Respondents’ Response to Intel’s Reply to the Commission’s Questions on the Public Interest (“DuPont I.Reply”); Office of Unfair Import Investigations Response to Intel’s Reply to the Commission’s Questions on the Public Interest (“IA I.Reply”).

material using a CMP slurry as a ‘liquid sandpaper’ in conjunction with a polishing pad and tool.” RX-1076C (Raghavan WS) at QA 76-79.

The ’721 patent, entitled “Colloidal Silica Chemical-Mechanical Polishing Composition,” issued on November 22, 2016. ’721 patent (JX-0001). The patent describes a chemical mechanical polishing composition that “includes colloidal silica abrasive particles dispersed in a liquid carrier.” JX-0001 at Abstract. “The colloidal silica abrasive particles include a nitrogen-containing or phosphorus-containing compound incorporated therein such that the particles have a positive charge.” *Id.* CMC asserts claims 1, 3-4, 6, 10–11, 13–14, 17–20, 24, 26-29, 31, 35-37, 39-44, and 46 in this investigation. ID at 5. To establish the existence of a domestic industry, CMC relies upon claims 1, 3-11, 13-21, 23, 26-29, 31-36, and 38-44. *Id.*

C. The Accused Products

DuPont’s accused products are the Optiplane™ 2300 product family, the Optiplane™ 2600 product family, and components thereof. ID at 9. “The Optiplane™ 2300 family includes at least Optiplane™ 2300 [[]] and Optiplane™ 2300A (a.k.a., OP2300 [[]]).” *Id.* (citing JX-0403C (Joint Stipulation Regarding Representative Accused Products)). “The Optiplane™ 2600 family includes at least Optiplane™ 2600, Optiplane™ 2601, Optiplane™ 2602/Optiplane™ 2300 [[]], and products with identifiers [[]].” *Id.*⁹ The only components accused of infringement in this investigation are the BS-3 particles, which are colloidal silica abrasive particles. No other components have been accused of infringement and no other components have been adjudicated in this investigation.

⁹ DuPont indicates Optiplane™ 2602 and Optiplane™ 2300 [[]] are the same product. DuPont Sub. at 4.

D. Domestic Industry Products

“CMC’s DI Products include the D922x family products, including D9228, D9222, D9225, D9228 7.5 X, [[]] and developments and improvements thereof.” ID at 10 (citing CX-0001C (Woodland DWS) at Q/A 8). “All of these products include [[]] colloidal silica abrasive particles.” *Id.* (citing CX-0002C (Grumbine DWS) at Q/A 30).

III. ANALYSIS OF ISSUES UNDER REVIEW

A. Importation

Section 337(a)(1)(B) prohibits “[t]he importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignee, of articles that . . . infringe a valid and enforceable United States patent.” 19 U.S.C. § 1337(a)(1)(B). “Importation of even a single infringing article is sufficient to support an action under section 337, and discontinuance of unfair importation is not a defense under section 337.”

Certain Condensers, Parts Thereof & Products Containing Same, Inv. No. 337-TA-334, Comm’n Op. at 23 (Aug. 20, 1997). Importation includes infringing articles that are reimported.

See Certain Sputtered Carbon Computer Disks & Products Containing the Same, Inv. No. 337-TA-350, USITC Pub. 2701, Comm’n Op. at 4-9 (Nov. 1993) (“The statute, by its terms, does not limit coverage to articles of foreign manufacture. . . . We see no basis for respondents’ position that the statutory term ‘importation’ excludes goods that have been ‘reimported.’”). “Whether a party is an importer in terms of Section 337 is a question of fact.” *Comcast Corp. v. Int’l Trade Comm’n*, 951 F.3d 1301, 1309 (Fed. Cir. 2020). A complainant bears the burden of showing that the importation requirement of section 337 is satisfied. *Certain Flash Memory Circuits and Prods. Containing Same*, Inv. No. 337-TA-382, Comm’n Op. at 5 (June 26, 1997).

I. Complete Optiplane™ 2300 and 2600 Slurries

DuPont argued CMC failed to satisfy the importation requirement in this case, explaining the accused slurries are manufactured entirely in the U.S. ID at 16. DuPont acknowledged that it “returned [] 72 drums of Optiplane™ 2300 slurry to the U.S.” as part of a recall in 2019. *Id.* The ID concluded that “DuPont’s re-importation of accused [Optiplane™ 2300] product from Taiwan constitutes an act of importation under section 337.” ID at 29. The Commission has long held that a “complainant need only prove importation of a single product to satisfy the importation element.” *Electronic Nicotine Delivery Sys. and Components Thereof*, Inv. No. 337-TA-1139, Order No. 35 at 6-11 (Aug. 5, 2019) (reviewed on other grounds, *see* Comm’n Notice (Sept. 4, 2019)).

The ID did not make a distinction between the Optiplane™ 2300 product recalled by Dupont and, other products within the Optiplane™ 2300 and the Optiplane™ 2600 families. *See* ID at 29. The ID treated Optiplane™ 2300 and its family as representative of the Optiplane™ 2600 family, and the record evidence supports that decision. Specifically, the Joint Stipulation states that (1) “[a]ny one of the Optiplane™ 2600, Optiplane™ 2601, Optiplane™ 2602, [[]] or Optiplane™ 2300 [[]] slurries and silica particles thereof are representative of all models of the Optiplane™ 2600 product family and silica particles thereof;” and (2) “[a]ny one of the Optiplane™ 2300A or Optiplane™ 2300 [[]] slurries and silica particles thereof are representative of all models of the Optiplane™ 2300 product family and silica particles thereof.” JX-0403C (Joint Stipulation) at 1-2; ID at 91; CX-0007C (Auger Dep. Tr.) at 55 (“A. All of the ones that you mentioned just now. So, you know, the 2300, 2300A, 2600, 2601, and 2602, you know, from my perspective, [[]]. The evidence further shows that DuPont’s Optiplane™ 2300 and 2600 product families all include the following six components: (a) BS-3 colloidal silica abrasive particles; [[]].

]]. CX-0007C (Auger Dep.) at 85:16-86:6. Thus, the Commission finds that Optiplane™ 2300 is representative of the Optiplane™ 2600 family for purposes of importation such that the importation of the Optiplane™ 2300 product is sufficient to satisfy the importation requirement for the Optiplane™ 2600 product family.¹⁰

2. BS-3 Particle (Component)

With regard to the BS-3 particles, DuPont argued that “importation of a single, standard component used in a manufacturing process that occurs in the U.S. . . . is not the type of importation that Section 337 was intended or meant to include as unfair act.” ID at 19. In its petition for review, DuPont reiterated its contention that there is not a “sufficient nexus” between the imported BS-3 particle and the final accused products because the BS-3 particles are [[
]] at DuPont’s domestic facilities to form the final product. DuPont Pet. at 25-26. DuPont’s argument stemmed in part from the ID’s finding that “DuPont’s importation of accused components from Fuso in Japan, and subsequently using those particles to manufacture its accused products in Delaware is an act of importation under section 337” akin to the facts of importation and sale in *Fluidized Supporting Apparatus*. ID at 30 (citing *Certain Fluidized Supporting Apparatus and Components Thereof*, Inv. Nos. 337-TA-182 and 337-TA-188, Initial Determination, 1984 WL 273788 at *4, **26-29, *55, *59, *69 (June 16, 1984) & Comm’n Op., 1984 WL 63741 at *6 (Oct. 5, 1984)).

¹⁰ Vice Chair Stayin would find that importation of one product is sufficient to satisfy the importation requirement as to another product if those products can be treated as the same for infringement purposes, that is, there are no differences material to the Commission’s infringement analysis. Given DuPont’s concession that the Optiplane™ products at issue are interchangeable for purposes of infringement, see ID at 90, Vice Chair Stayin joins the Commission’s determination that the importation requirement was met as to all accused products in this case.

Contrary to DuPont's assertion, however, the inquiry as to whether Respondents' importation of the BS-3 particle meets the statutory importation requirement does not depend upon whether a nexus exists between the BS-3 particles as to which CMC accuses Respondents of indirect infringement and the planarization slurries that are the final products as to which CMC accuses Respondents of direct infringement. “[I]mportation and infringement are separate inquiries, and the two inquiries, while related, should not be conflated.” *See Certain Dental & Orthodontic Scanners & Software*, Inv. No. 337-TA-1144, Initial Determination at 13 (Apr. 30, 2020), *importation reviewed and affirmed in relevant part by Commission (Comm'n Op. at 6-8) (Nov. 17, 2020)*. In determining whether the importation requirement is met, the Commission does not examine whether the imported BS-3 particle is an “integral” component in the accused product or whether the imported component is part of an “important step” that is “essential” and/or “indispensable” to the production of the final accused product. *Fluidized Supporting Apparatus* is not the relevant controlling precedent on this issue; rather, it is the Commission’s recent decision in *Certain High-Density Fiber Optic Equipment and Components Thereof*, Inv. No. 337-TA-1194, Comm'n Op. at 22 (Aug. 3, 2021). There, the Commission explained that whether imported components meet any claim limitations or have a nexus to the asserted claims is irrelevant to the issue of whether there is an “importation into the United States” of those components. *Id.* The question for importation purposes is: what is being imported? Here, no one disputes that the BS-3 particles are imported. Thus, under Commission precedent, this is sufficient to establish the importation requirement, *i.e.*, that there be an “importation into the United States” as provided in section 337(a)(1)(B). *See id.* at 17 (“[T]he record shows that Respondents Leviton, Panduit, and Siemon each import components of their accused fiber optic apparatuses into the United States. That is sufficient to establish the requirement that there be an

‘importation into the United States’ as provided in section 337(a)(1)(B).”). Whether the imported particles indirectly infringe the infringe the ’721 patent is a separate question, addressed below.

B. Infringement

The ID made findings regarding direct and indirect infringement. ID at 91-143. The ID addressed direct infringement in both its section on direct infringement and its section on indirect infringement. *See* ID at 91-124 (Direct Infringement Section); ID at 124-133 (Indirect Infringement Section). The ID referred to the Optiplane™ 2300 and 2600 slurries and components thereof (specifically the BS-3 particles) as “Accused Products;” however, certain parts of the ID used the term “Accused Products” to refer either to the Optiplane™ 2300 and 2600 slurries (“completed slurries”) (*see, e.g.*, ID at 87-124) or the BS-3 particles (*see, e.g.*, ID at 124).

The Commission determined to review infringement, including to clarify which theories of infringement (direct, induced, and/or contributory) apply to the completed slurries and which apply to the BS-3 particles.

1. Findings Related to Violation Based on Direct Infringement

Under 35 U.S.C. § 271(a), direct infringement consists of making, using, offering to sell, importing, or selling a patented invention without consent of the patent owner. The complainant in a section 337 investigation bears the burden of proving infringement of the asserted patent claims by a “preponderance of the evidence.” *Certain Flooring Products*, Inv. No. 337-TA-443, Comm’n Notice of Final Determination of No Violation of Section 337 (Mar. 22, 2002); *Enercon GmbH v. Int’l Trade Comm’n*, 151 F.3d 1376 (Fed. Cir. 1998). “Literal infringement of a claim exists when every limitation recited in the claim is found in the accused device, *i.e.*,

when the properly construed claim reads on the accused device exactly.”¹¹ *Amhil Enters., Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996); *Southwall Tech. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed Cir. 1995). A method claim is literally infringed only by one practicing each and every step of the patented method. *Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 775 (Fed. Cir. 1993).

In its Direct Infringement Section, the ID found that the “Accused Products” – in that context, the Optiplane™ 2300 and 2600 slurries – directly infringe the asserted claims of the ’721 patent, which the Commission understands to mean that the completed slurries practice each and every limitation of the asserted composition claims and carry out all of the steps of the method claims when used. ID at 87-124. The Commission affirms that finding with regard to the composition claims, and finds that importation of the Optiplane™ slurry is a violation of section 337 because it constitutes the importation of an “article[] that – infringe[s]” within the meaning of section 337(a)(1)(B)(i).

With regard to the method claims, the Commission takes no position on whether importation or sale after importation of completed slurries that directly infringe the method claims of the ’721 patent when used in the United States constitutes a violation of section 337. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984).

The Commission has determined to take no position as to the ID’s finding in its Indirect Infringement Section on pages 130-133 that “importation of the BS-3 particles supplied to respondents to directly infringe the ’721 patent is, independently, a violation of section 337.” ID

¹¹ The Commission understands that persons infringe, devices do not, but the Commission uses the same “shorthand” that the Federal Circuit has used. *See Suprema, Inc. v. Int’l Trade Comm’n*, 796 F.3d 1338, 1347 (Fed. Cir. 2015).

at 130-133 (discussion under heading “Additional *Testing Strips* Factors Related to Direct Infringement”).¹² Specifically, the Commission takes no position on whether importation of the BS-3 particles constitutes a violation of section 337 under a theory of direct infringement as to the asserted claims.¹³ The Commission has, however, determined to affirm a violation of section 337 with respect to the importation of BS-3 particles based on the ID’s indirect infringement findings as discussed below.

2. *Findings Related to Violation Based on Indirect Infringement*

In its Indirect Infringement Section, with respect to direct infringement, the ID found that “Respondents, their customers and certain third-party laboratories make, use and sell the ‘Accused Products and components thereof’ in the United States that infringe the asserted claims.” ID at 124. With regard to the BS-3 particles, the ID found direct infringement of the composition and method claims based on Respondents’ use of the particles to make Optiplane™ 2300 and 2600 slurries. ID at 124-125. With respect to the completed slurries, the ID found direct infringement based on Respondents’ use of the completed slurries as well as Respondents’ sale of the completed slurries in the United States. ID at 125-133. The Commission affirms

¹² To arrive at this finding, the ID applied several factors that the ID discerned from Chair Kearns’ and Commissioner Schmidlein’s footnotes in *Blood Cholesterol Testing Strips*, Comm’n Op. at 33 n. 26 & n. 27.

¹³ Chair Kearns, like his colleagues, does not reach this issue because the Commission finds indirect infringement by the BS-3 particles, and resolving the issue would not change the remedy granted to the complainant. He notes that, as requested in the Commission’s Notice of Review, the parties briefed whether, including under the framework he articulated in his Additional Views in *Fiber Optic Equipment*, the BS-3 particles should be considered articles that infringe under section 337 based on a theory of direct infringement. He also notes the ID’s analysis of this issue under basic frameworks set out, separately, by both himself and Commissioner Schmidlein in *Blood Cholesterol Testing Strips* (the Commission’s Opinion in *Fiber Optic Equipment* issued after the ID in the present investigation). Chair Kearns appreciates the input from the parties and the ID on this issue, which, as discussed in his Additional Views in *Fiber Optic Equipment*, is arising more frequently in our investigations. He reiterates his intent to apply the approach he previously articulated when he does reach this issue.

these findings in the ID on pages 124 through 129, and clarifies that, with respect to the ID’s statement on page 124, making a patented invention in the United States without authorization infringes a patent and is actionable under section 337, provided the other elements of establishing a section 337 violation (*e.g.*, with respect to importation) are also met.¹⁴ The Commission now turns to the ID’s findings regarding indirect infringement.

a) Induced Infringement

Section 271(b) of the Patent Act provides that “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” 35 U.S.C. § 271(b). Induced infringement requires an act of direct infringement by another at the inducement of the infringer. *Power Integrations Inc. v. Fairchild Semiconductor Int’l, Inc.*, 843 F.3d 1315, 1331 (Fed. Cir. 2016). Liability for inducing infringement attaches only if the defendant knew of the patent and knew that the induced acts constituted patent infringement. *Commil USA, LLC v. Cisco Sys., Inc.*, 135 S. Ct. 1920, 1926 (2015); *see also Microsoft Corp. v. Datatern, Inc.*, 755 F.3d 899, 904 (Fed. Cir. 2014) (to prove induced infringement, patentee must show that accused inducer took an affirmative act to encourage infringement with knowledge that the induced acts constitute patent infringement).

(1) Completed Slurries

The ID found that DuPont induced infringement of the asserted patent claims with respect to the completed slurries. ID at 135-139. Specifically, the ID found that Respondents induced infringement by supplying the completed slurries to their customers and instructing them

¹⁴ The Commission notes that while it affirms the ID’s finding that Respondents directly infringe the ’721 patent when they use the BS-3 particles to make the infringing Optiplane™ slurries, as noted above, it takes no position on whether that conduct constitutes a violation of section 337.

to use them in a manner that infringes both the asserted composition and method claims. *Id.* The Commission has determined to take no position on this finding. *See Beloit Corp.*, 742 F.2d at 1423.

(2) BS-3 Particles

The Commission has determined to affirm the ID's induced infringement finding with respect to the imported BS-3 particles for the reasons provided in the ID. As discussed above in section B.2., the ID properly found that there was direct infringement by another as required by section 271(b).

The Commission agrees with the ID's finding that “[c]ertain respondents, including DuPont de Nemours, Inc. and Rohm and Haas Electronic Materials K.K., actively induce other respondent subsidiaries, including at least Rohm and Haas Electronic Materials CMP in Delaware to infringe the ‘721 patent.’” ID at 135-36. As the ID found, employees of DuPont de Nemours, Inc. and subsidiary Rohm and Haas Electronic Materials K.K. of Japan purchase BS-3 colloidal silica particles in Japan and cause them to be imported into the United States with the intention that they will be used in the United States by Rohm and Haas Electronic Materials CMP LLC to make infringing CMP slurries, which are then used in an infringing manner in the United States by Rohm and Haas Electronic Materials CMP LLC, its customers, and a third-party lab. ID at 135-39 (citing JX-0349C (Fuso Importations); *see also* CX- 0011C (Hutchinson Dep. Tr.) at 171–172, 175–176, 181, 182, 183; JX-0054 (Shipment Details/Rohm/US Imports, Panjiva, Apr. 2020); Tr. 293–294). Accordingly, the Commission affirms the finding that certain Respondents induced infringement in the United States by importing and supplying the BS-3 particles. The Commission concludes that the importation of the BS-3 particles by certain Respondents induces infringement of the method and composition claims by other respondents

and constitutes the importation of “articles that – infringe” within the meaning of section 337(a)(1)(B)(i).

b) *Contributory Infringement*

Section 271(c) of the Patent Act provides:

Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

35 U.S.C. § 271(c). To hold a component supplier liable for contributory infringement, a patent holder must show that (a) the supplier’s product was used to commit acts of direct infringement; (b) the product’s use constituted a material part of the invention; (c) the supplier knew its product was especially made or especially adapted for use in an infringement” of the patent; and (d) the product is not a staple article or commodity of commerce suitable for substantial noninfringing use. *Arris Group, Inc. v. British Telecommc’ns PLC*, 639 F.3d 1368, 1376 (Fed. Cir. 2011).

(1) *Completed Slurries*

The ID found DuPont liable for contributory infringement of the asserted patent claims with respect to the slurries. ID at 140-143. Specifically, the ID found that Respondents cause the completed slurries to be imported and sell the slurries to customers and third parties that then use them to practice the asserted composition and method claims. *Id.* The Commission has determined to take no position on this finding. *See Beloit*, 742 F.2d at 1423.

(2) *BS-3 Particles*

With respect to the BS-3 particles, as to the composition claims (claims 1, 3–6, 10, 11, 13, 14, 18–20, 24, 26–29, 31, 35–37), the Commission has determined to affirm the ID’s finding

that supply of the particles by the foreign respondents contributes to direct infringement by Rohm and Haas Electronic Materials CMP LLC, but not by customers or the third-party lab. ID at 140-43. Rohm and Haas Electronic Materials CMP LLC uses the supplied particle to make the infringing slurries in the United States and thereby directly infringes the asserted composition claims. *Id.* Rohm and Haas Electronic Materials CMP LLC, however, cannot be liable for contributory infringement because it supplies the completed slurry to customers and third-party labs, not a component of the infringing composition (e.g., the BS-3 particles) as required by the statute.

Regarding the method claims (claims 39-44), the Commission affirms the ID's contributory infringement findings as to Rohm and Haas Electronic Materials CMP LLC. *Id.* As discussed above, Rohm and Haas Electronic Materials CMP LLC uses the particles to make the completed slurries. Rohm and Haas Electronic Materials CMP LLC then tests the completed slurries using the process claimed in the method claims, and thereby directly infringe the asserted method claims. Thus, the Commission affirms the ID's finding that Respondents contribute to Rohm and Haas Electronic Materials CMP LLC's direct infringement of the method claims for the reasons stated in the ID. The Commission concludes that the importation of the BS-3 particles by Respondents contributes to infringement and constitutes the importation of "articles that – infringe" within the meaning of section 337(a)(1)(B)(i).

C. Economic Prong Requirement of Domestic Industry

In a patent-based section 337 investigation, a complainant is required to show that an industry in the United States relating to the articles protected by the patent exist or is in the process of being established. 19 U.S.C. § 1337(a)(2). Section 337(a) provides:

- (3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned—
(A) significant investment in plant and equipment;
(B) significant employment of labor or capital; or
(C) substantial investment in its exploitation, including engineering, research and development, or licensing.

19 U.S.C. § 1337(a)(3). Under Commission precedent, this domestic industry requirement has been divided into (i) a “technical prong” (which requires articles covered by the asserted patent) and (ii) an “economic prong” (which requires certain levels of activity with respect to the protected articles or patent itself). *See, e.g., Certain Video Game Systems and Controllers*, Inv. No. 337-TA-743, Comm’n Op. at 6-7 (Apr. 14, 2011).

The ID found that CMC established the existence of a domestic industry under subparagraphs (A), (B), and (C). ID at 300-314. The Commission has determined to take no position on the ID’s finding of the existence of a domestic industry under subparagraph (A). ID at 306-309. The Commission affirms the ID’s findings under subparagraphs (B) and (C).^{15, 16} ID at 310-314.

¹⁵ Chair Kearns finds CMC’s investments/expenses to be “significant” for subsection (B) and “substantial” for subsection (C) based upon the facts that (1) [[]] CMC’s research and development (“R&D”) for the domestic industry (“DI”) products took place in the United States, (2) [[]], (3) U.S. labor and equipment account for [[]] made in the United States, and (4) the U.S. activities are qualitatively highly significant/substantial. He does not adopt the ID’s findings at 313-314 that CMC’s investments are significant and substantial based on (1) comparison of materials cost to final sales price (which includes profit), (2) comparison of the revenue and volume of the DI products to the revenue and volume of all [[]] slurries made and sold by CMC in the United States, (3) comparison of CMC’s [[]] (4) comparison of U.S. headcounts to global headcounts (because it is unclear whether those headcounts reflect allocation to the DI product), (5) share of total R&D experiments and requests that related to the DI products, and (6) comparison to other companies in the marketplace.

¹⁶ Vice Chair Stayin joins the Commission’s decision to affirm the ID’s finding as to subparagraphs (B) and (C), but notes that in a different context, the various theories detailed in

D. Conclusion Regarding Violation

The Commission finds that all elements of a section 337 violation have been established by Complainant CMC. In particular, on review, the Commission finds that CMC has established that Respondents have violated section 337 in the importation of completed slurry that directly infringes the asserted composition claims of the '721 patent. Respondents have also violated section 337 in the importation of the BS-3 particles that Respondents use to both induce and contribute to other Respondents' direct infringement of the composition and method claims. In addition, complainants have established that the domestic industry requirement has been met.

IV. REMEDY

Where a violation of section 337 has been found, the Commission must consider the issues of remedy, the public interest, and bonding. Section 337(d)(1) provides that:

If the Commission determines, as a result of an investigation under this section, that there is a violation of this section, it shall direct that the articles concerned, imported by any person violating the provision of this section, be excluded from entry into the United States, unless, after considering the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers, it finds that such articles should not be excluded from entry

19 U.S.C. § 1337(d)(1); *see also Spansion, Inc. v. Int'l Trade Comm'n*, 629 F.3d 1331, 1358 (Fed. Cir. 2010) (“[T]he Commission is required to issue an exclusion order upon the finding of a Section 337 violation absent a finding that the effects of one of the statutorily-enumerated public interest factors counsel otherwise.”). The Commission has “broad discretion in selecting the form, scope, and extent of the remedy.” *Viscofan, S.A. v. U.S. Int'l Trade Comm'n*, 787 F.2d 544, 548 (Fed. Cir. 1986). The Commission may issue an exclusion order excluding the goods

the ID regarding whether CMC's expenditures are significant/substantial may not be sufficient to satisfy a complainant's burden on this issue. *See* ID at 311-14.

of the person(s) found in violation (*i.e.*, a limited exclusion order) or, if certain criteria are met, against all infringing goods regardless of the source (*i.e.*, a general exclusion order).

In conjunction with (or in lieu of) an exclusion order, the Commission may also issue orders directing persons found in violation of section 337 “to cease and desist from engaging in the unfair methods or acts involved.” 19 U.S.C. § 1337(f). The Commission generally issues a cease and desist order (“CDO”) when the evidence shows that the respondent maintains “commercially significant” inventory of imported infringing products in the United States or has significant domestic operations that could undercut the remedy provided by an exclusion order.

See, e.g., Certain Elec. Skin Care Devices, Brushes & Chargers Therefor, & Kits Containing the Same, Inv. No. 337-TA-959, Comm’n Op. at 26 (Feb. 13, 2017).

A. Limited Exclusion Order

As noted above, the ALJ recommended that, if the Commission finds a violation of section 337, and if consideration of the statutory public interest factors does not require that remedies be set aside or modified, the Commission should issue a limited exclusion order (“LEO”) covering all of the infringing articles (CMP slurries and components thereof, including colloidal silica) imported, sold for importation, or sold after importation by respondents and respondents’ affiliated companies, parents, subsidiaries or other related business entities, or their successors or assigns. ID/RD at 319. The ALJ stated that because “respondents have persuasively argued that certain components may have non-infringing uses, in the event the Commission does issue a limited exclusion order in this investigation, the exclusion order should include a [certification] provision.” *Id.*

1. The Parties' Submissions

a) CMC's Submission

CMC agrees with the RD that an LEO should issue “covering *all* of the infringing articles (“chemical mechanical planarization (‘CMP’) slurries *and components thereof, including colloidal silica*”) imported, sold for importation, or sold after importation by respondents and should apply to respondents’ affiliated companies, parents, subsidiaries or other related business entities, or their successors or assigns.” CMC Sub. at 28-29 (emphasis by CMC) (citing ID at 319). CMC states that the only disagreement it has with the RD in this regard is the RD’s conclusion that any LEO issued by the Commission should include a certification provision. *Id.* at 29. Specifically, CMC argues that “Respondents should not be permitted to certify that any component of its infringing CMP slurries is outside the scope of the LEO without an express finding to that effect.” *Id.* (citing *Certain Composite Aerogel Insulation Materials and Methods for Manufacturing the Same*, Inv. No. 337-TA-1003, Comm’n Op. at 62 (Feb. 22, 2018) (stating that the United States Customs and Border Protection (“CBP”) “only accepts a certification that the goods have been previously determined by CBP or the Commission not to violate the exclusion order”); *Fiber Optic Equipment*, Comm’n Op. at 78 (“Any Respondent seeking to import any of the accused products for a non-infringing use can seek a determination as to the importation of those products for those purposes.”)). According to CMC, “[t]he only express finding in this regard was that neither the Accused Products nor the imported BS-3 particles have any substantial non-infringing use.” *Id.* (citing ID at 141).

b) DuPont's Submission

DuPont states that “no ITC remedy should issue over this domestic dispute” but that “[i]n the event the Commission completes its review and determines that DuPont has violated Section 337, the scope and form of any remedy that issues should be limited so as not to restrict

legitimate commerce.” DuPont Sub. at 33. According to DuPont, “[t]he ALJ recognized the limited scope of this Investigation—covering only two Accused Products—Optiplane™ 2300 and 2600—and concluded that the scope and form of any remedy that issues should be so limited and include a certification provision.” *Id.* (citing ID at 319-20). DuPont contends that even though “the ALJ did not recommend carve-outs, if an exclusion order issues, the Commission should also expressly carve out all products and components for which technical information and other discovery was provided and CMC declined to accuse of infringement.” *Id.* (citing RD at 318-19).

DuPont explains that “[t]hroughout the course of the Investigation, [it] has produced technical information and other discovery regarding a host of DuPont CMP slurries with a pH range between about 1.5 and about 7” but that “CMC has not accused these products of infringement or included them in the Joint Stipulation Regarding Representative Accused Products.” *Id.* (citing (Respondents’ Resp. to Complainant’s List of Proposed Representative Products); JX-0403C (Joint Stipulation Regarding Representative Accused Products)).

DuPont agrees with the ALJ that any exclusion order should include a certification provision.

c) OUII’s Submission

OUII supports the ALJ’s recommendation regarding the scope of the LEO and the inclusion of a certification provision. OUII Sub. at 4. OUII states that “the allegedly infringing nature of a CMP slurry cannot readily be determined by CBP, and thus the LEO should include a certification provision.” *Id.* (citing *Certain Digital Televisions & Certain Prods. Containing Same & Methods of Using Same*, Inv. No. 337-TA-617, Comm’n Op. at 11 (Apr. 23, 2009) (“Certification provisions are necessary to minimize the possibility that non-infringing products

will be excluded from entry into the United States when CBP is unable to determine readily by inspection whether an imported product violates a particular exclusion order.”)).

OUII disagrees with DuPont’s requested carve out. According to OUII, “[t]he language of LEOs issued by the Commission is broad and, unless there are exceptional circumstances, does not include language that carves out specific products from their scope” and that “[a]ny LEO should be broad enough to encompass products that infringe the asserted claims for which a violation is found, and should not be limited to just the specific Optiplane™ 2300 and 2600 slurry products, or just the Fuso BS-3 particle.” *Id.* OUII asserts that [[
]] and thus may be used to make an infringing CMP slurry” and that “[t]o the extent DuPont were to import components, even components other than the Fuso BS-3 particles [[

]] to make CMP slurries that would infringe one of the asserted claims found to have been infringed, those particles should also be encompassed by an LEO.” *Id.* at 4-5.

2. *The Appropriate Remedy*

The Commission has determined to issue a limited exclusion order covering chemical mechanical planarization (‘CMP’) slurries that contain colloidal silica abrasive particles and colloidal silica abrasive particles that are imported, sold for importation, or sold after importation by Respondents that infringe, directly or indirectly, the asserted claims. The order covers the infringing BS-3 particles and extends to Respondents’ affiliated companies, parents, subsidiaries or other related business entities, or their successors or assigns. *See* ID/RD at 319. As discussed below, the LEO includes a delay of up to one year to allow entities currently using the infringing products in an ongoing semiconductor chip fabrication development project adequate time to

switch to a non-infringing alternative.¹⁷ The Commission, however, has determined not to include the “components thereof” language in the LEO. The Commission finds that the components here that would be captured and excluded under the “components thereof” provision are mainly the [[]]. See DuPont Sub. at 34-35. Yet, while [[]] were disclosed in discovery and discussed by the parties during the investigation, CMC did not accuse them of infringement, and no infringement or noninfringement determination has been made as to [[]]. Significantly, the evidence shows (and no one disputes) that these products are used in non-infringing slurries. Thus, declining to include the “components thereof” language means that the other imported components, *i.e.*, [[]] will not be automatically excluded under that language, but will be analyzed upon importation and will only be excluded if CBP (or the Commission) determines that they infringe the asserted claims. In other words, they will be treated like any other articles that have not yet been adjudicated by the Commission.

The Commission, however, agrees with the ALJ and the OUII that the LEO should include the standard certification provision under which, at the discretion of CBP and pursuant to the procedures it establishes, persons seeking to import articles that are potentially subject to the LEO may be required to certify that they are familiar with the terms of the LEO, that they have made appropriate inquiry, and thereupon state that, to the best of their knowledge and belief, the products being imported are not excluded from entry under the LEO. Certification is only acceptable for those articles that were previously determined not to violate the LEO. *See Automated Teller Machines, ATM Modules, Components Thereof, & Prods. Containing the*

¹⁷ To utilize this exemption, these entities and DuPont must complete the questionnaire and certification attached to the LEO.

Same, Inv. No. 337-TA-972, Comm'n Op. at 27 (June 12, 2017) (“The standard certification language does not apply to redesigns that have not been adjudicated as non-infringing.”) (quotation omitted). Indeed, in its reply submission, CMC explains that it “does not object to the inclusion of a certification provision in any remedial orders” but “objects to Respondents importing CMP slurries that include colloidal silica particles and components thereof without a ruling from CBP or the Commission that they do not infringe, or that the slurries into which they will be incorporated do not infringe.” CMC R.Sub. at 25. Only articles that have been found not to infringe can use the certification provision, so CMC’s objection is unwarranted.

B. Cease and Desist Orders

The ALJ found that “respondents maintain more than 60 days of inventory of infringing slurries and the raw materials that they use to replenish those slurries as they are consumed” and so “[a] CDO [Cease and Desist Order] is therefore needed here to prevent respondents from undercutting the remedial effect of an LEO.” ID/RD at 321-23.

CMC and OUII agree with the ALJ that CDOs are warranted in this investigation. CMC Sub. at 29-30; OUII Sub. at 5-6. In its initial submission, DuPont argued that “unchallenged evidence in the record establishes that [[]]] are used in multiple other DuPont products not accused or at issue in this Investigation” and so “a CDO directed to these components is unwarranted.” DuPont Sub. at 36. In its reply submission, DuPont argues that CDOs should not issue as to the foreign respondents (Rohm and Haas Electronic Materials CMP Asia Inc. (d/b/a Rohm and Haas Electronic Materials CMP Asia Inc., Taiwan Branch (U.S.A.), and for Rohm and Haas Electronic Materials Asia-Pacific Co., Ltd), because they do not have [[]]] and Rohm & Haas Electronic Materials LLC

because CMC “has only alleged that this entity has been involved with the [[
]] DuPont R.Sub. at 26.

The Commission has determined to issue CDOs directed to all the domestic respondents, *i.e.*, DuPont de Nemours, Inc. of Wilmington, Delaware; Rohm and Haas Electronic Materials CMP, LLC of Newark, Delaware; and Rohm and Haas Electronic Materials LLC of Marlborough, Massachusetts. The evidence shows that they maintain commercially significant inventories: [[

]] *See* ID/RD at 322 (citing JX-0276C (Inventory Volume and Value – Sept. 2019 thru Sept. 16, 2020); CX-0005C (Vander Veen DWS) at Q/A 111; CDX-0005C.21 (JX-0272C (Sales & StdMargin – Adhoc Financial Analysis); JX-0276C (Inventory Volume and Value – Sept. 2019 thru Sept. 16, 2020)). The Commission finds that CDOs covering the BS-3 particles and slurries incorporating these particles are appropriate here because the unfair acts involve both the particles and the slurries that incorporate the imported infringing BS-3 particles. The Commission finds DuPont’s argument as to the foreign respondents persuasive. There is no evidence that those entities themselves have “commercially significant” inventory of imported

infringing products in the United States or have significant domestic operations that could undercut the remedy provided by an exclusion order. While the foreign and domestic entities are related, each of them remains a separate legal entity.

As discussed below, the CDOs include a one-year delay to allow entities currently using the infringing products in an ongoing semiconductor chip fabrication development project adequate time to switch to a non-infringing alternative.^{18, 19}

C. The Public Interest

Prior to issuing remedial orders under section 337, the Commission must weigh the effect the orders would have on four public interest factors: (1) the public health and welfare; (2) competitive conditions in the United States economy; (3) the production of like or directly competitive articles in the United States; and (4) United States consumers. 19 U.S.C. §§ 1337(d), (f). “[T]he statute does not require the Commission to determine that a remedial order would advance the public interest factors but rather requires the Commission to consider whether issuance of such an order will adversely affect the public interest factors.” *Certain Loom Kits for Creating Linked Articles*, Inv. No. 337-TA-923, Comm’n Op. at 15 (June 26, 2015) (“*Loom Kits*”) (citation omitted). When the circumstances of a particular investigation

¹⁸ To utilize this exemption, these entities and DuPont must complete the questionnaire and certification attached to the CDO.

¹⁹ When the presence of infringing domestic inventory or domestic operations is asserted as the basis for a CDO under section 337(f)(1), Commissioner Schmidlein does not adopt the view that the inventory or domestic operations needs to be “commercially significant” in order to issue the CDO. See, e.g., *Certain Network Devices, Related Software and Components Thereof (I)*, Inv. No. 337-TA-944, Comm’n Op. at 56, n.20 (July 26, 2016) (public version); *Certain Table Saws Incorporating Active Injury Mitigation Technology and Components Thereof*, Inv. No. 337-TA-965, Comm’n Op. at 6-7, n.2 (Feb. 1, 2017). In Commissioner Schmidlein’s view, the presence of some infringing domestic inventory or domestic operations, regardless of commercial significance, provides a basis to issue the CDOs in this investigation.

require, the Commission has tailored its relief in light of the statutory public interest factors. For example, the Commission has provided exemptions for research use, exempted service parts, grandfathered certain infringing products, and delayed the imposition of remedies to allow affected third-party consumers to transition to non-infringing products. *See, e.g., Certain Microfluidic Devices*, Inv. No. 337-TA-1068, Comm'n Op. at 45-48 (Jan. 9, 2020) (providing exemption for research use); *Certain Road Milling Machines & Components Thereof*, Inv. No. 337-TA-1067, Comm'n Op. at 32-33 (July 18, 2019) (exempting service parts); *Certain Personal Data & Mobile Comm'n Devices & Related Software*, 337-TA-710, USITC Pub. No. 4331, Comm'n Op. at 72-73, 80-81 (June 2012) (delaying imposition of remedy); *Certain Baseband Processor Chips & Chipsets, Transmitter, & Receiver (Radio) Chips, Power Control Chips, & Prods. Containing Same, Including Cellular Tel. Handsets*, 337-TA-543, USITC Pub. No. 4258, Comm'n Op. at 150-51 (Oct. 2011) (grandfathering certain products). In connection with its assessment of the public interest factors, the Commission posed several questions for the parties and requested briefing from interested parties in its Notice of Review and subsequently requested additional information from non-party, Intel.

1. The Parties' and Intel's Submissions

a) CMC's Submission

CMC states that “[w]hile the press has reported a shortage of certain semiconductor chips that has largely aligned with the COVID-19 pandemic, such shortage is unrelated to the issues presented in this Investigation.” CMC Sub. at 22-23 (citing Ex. H (Vander Veen Dec.) ¶¶ 9, 15). According to CMC, “[a]nalysts have pointed to numerous interrelated causes of the shortage—including travel and transport restrictions caused by the pandemic, geographic concentration of semiconductor manufacturers largely in Taiwan and China, the impact of a severe drought in Taiwan, and fluctuating and unpredictable demand for consumer goods such as automobiles

during the pandemic—which together have created certain supply chain issues.” *Id.* at 23 (citing Ex. H (Vander Veen Dec.) ¶¶ 9-14). CMC states that “*none* of these contributing factors has anything to do with the supply of CMP slurries to the semiconductor manufacturing industry, let alone the supply of the specific infringing products at issue.” *Id.* (citing Ex. H (Vander Veen Dec.) ¶¶ 9, 15). CMC contends that “CMP slurry supply remains healthy and strong” and that “Respondents themselves stated in a recent analyst call that their CMP business is ‘continuing to grow.’” *Id.* (citing Ex. H (Vander Veen Dec.) at Ex. H-14 (DuPont de Nemours Inc, Business Update Call, AlphaSese) Sept. 22, 2021, at 8 (attached to Ex. H (Vander Veen Dec.)); *see also* Ex. H (Vander Veen Dec.) ¶ 16).

CMC argues that “[a]n exclusion order or cease and desist orders in this Investigation would have no impact on the availability of semiconductor chips in the U.S.” as “there are numerous like, competitive, and readily accessible substitutes to the infringing products that could be used in the same applications as the infringing products, and which would ensure no disruption to semiconductor device supply.” *Id.* at 24. CMC states that “the substitute products include CMC’s DI Products, which CMC could supply [[]]] and which have the same ‘key features’ as the infringing products precisely because the Respondents designed the infringing products with the DI Products in mind.” *Id.* (citing Ex. I (Dauskardt Dec.) ¶ 8; ID at 134). According to CMC, [[

]] *Id.* (citing Complainant’s Public Interest Statement (Aug. 9, 2021) at Ex. A (Woodland Dec.) ¶ 4).

CMC contends that “[i]n addition to the DI Products, other non-accused and widely used CMP slurries can satisfy customer demand, including CMC’s SS25 fumed-silica based product, Respondents’ alkaline colloidal-silica based product, and numerous non-infringing ceria-based,

fumed silica based, and alkaline slurries from other suppliers.” *Id.* (citing CMC’s Public Interest Statement at Ex. A (Woodland Dec.) ¶ 3; Ex. I (Dauskardt Dec.) ¶ 9; JX-0286C (DuPont Marketing Material) at 4, 5). CMC states that [[

]] and that “[i]n these circumstances, any customers of the infringing products could readily roll back their adoption and return to their prior processes of record.” *Id.* at 25-26 (citing CX-0015C (McDavitt Dep. Designations) at 87:21-88:12 [[

]] Ex. I (Dauskardt Dec.) ¶ 10).

CMC further contends that “Respondents’ volume of infringing products is relatively low, if not minimal” and that “[a]s of a [[]] DuPont marketing analysis, Respondents had [[]] *Id.* at 26-27 (citing JX-0286C (DuPont Marketing Material) at 7). CMC argues that “[n]ot only could CMC or other suppliers of acidic CMP slurries readily replace this amount, but numerous additional suppliers of other types of substitute products, such as [[

]] and that

“Respondents themselves could easily shift from supplying the infringing acidic products at issue in this Investigation to their own, widely used non-infringing Klebosol alkaline CMP slurry products, which are [[

]] ID at 26 (citing JX-0286C (DuPont Marketing Material) at 4 (describing substitute products for dielectrics slurry), at 7 (describing that [[]]]; Ex. H (Vander Veen Dec.) ¶¶ 23-28).

In response to Intel's argument that it [[
]] without following an exacting and time-consuming qualification process to fully characterize and fine tune process control parameters and CMP procedures [[
]] (Intel Sub. at 5-6), CMC observes that "the Commission published its notice of this Investigation more than *five* quarters ago." CMC I.Reply at 26. CMC states that in addition, it [[
]] and that [[
]] *Id.* at 26-27 (citing Ex. 1, Second Woodland Dec. ¶ 8). According to CMC, [[
]] and that [[
]] *Id.* at 27 (emphasis by CMC). CMC adds that [[
]] and that "[t]his should significantly reduce any alleged 'cost and disruption' to Optiplane users like [[
]] *Id.*

b) DuPont's Submission

DuPont asserts that "[n]umerous semiconductor companies, including [[
]] use DuPont's Optiplane™ CMP slurries" and that "[c]urrently, semiconductor chips are in a worldwide shortage." DuPont Sub. at 25. According to DuPont, "[t]his shortage is particularly concerning given their use in a wide range of sectors across the U.S. economy, including medical devices, advanced research, healthcare, clean energy, and military systems" and that "[s]emiconductors are the 'brains' of all electronic devices," without

which many products could not function. *Id.* at 25-26. DuPont explains that “[m]anufacturing a semiconductor device typically takes 3-6 months, and large manufacturers of semiconductor chips may have only 10 different kinds of chips in production at any given time.” *Id.* at 26. DuPont contends that “an estimated ‘169 U.S. industries [are] being directly affected by the shortage,’” including the automobile industry, and that “[e]arlier this year, the President issued Executive Order 14017 ordering the White House to investigate, among other things, U.S. semiconductor supply chain vulnerabilities.” *Id.* DuPont states that “[i]n its report, the White House recommended that ‘Congress support at least \$50 billion in investments to advance domestic manufacturing of leading-edge semiconductors’” and that “[s]hortly thereafter, the U.S. Senate passed a \$250 billion bill called the U.S. Innovation and Competition Act, that included \$52 billion for the CHIPS for America Act aimed squarely at subsidizing domestic semiconductor manufacturing, to help domestic manufacturers expand production to help offset the ‘shortage of chips that has idled U.S. automotive plants and disrupted the production of consumer electronics.’” *Id.* at 26-27.

DuPont asserts that “[e]ven with the recent governmental support, the U.S. semiconductor shortage is not expected to end soon” and that the “lack of excess U.S. semiconductor manufacturing capacity means additional chips cannot be made for American industry right away.” *Id.* at 27 (citing Ex. 1 at 8-9 (showing the U.S. semiconductor manufacturers account for only 12 percent of the industry today compared to 37 percent of the industry in 1990)). According DuPont, “the U.S. semiconductor chip shortage is expected to last until late 2022 or early 2023” and that “Intel, the United States’ largest domestic manufacturer of semiconductor chips and [[]]] is itself investing in new domestic manufacturing facilities.” *Id.* DuPont states that “[t]hese investments will grow

future domestic semiconductor manufacturing capacity; however, they will not solve the current U.S. shortage” and that “[u]ntil that capacity comes online, Intel’s CEO estimates that the shortage will persist into 2023.” *Id.* (citing Ex. 9).

DuPont further explains that “[t]he manufacturing of semiconductor chips is an intricate and capital intensive process” and that “[n]ew supply chains, involving CMP slurry suppliers like DuPont, cannot be created instantly.” *Id.* DuPont adds that “the products of one slurry supplier cannot simply be swapped for another” and that “slurries must be qualified at specific customer sites for compatibility with specific CMP systems.” *Id.* (citing App. A (Williams Dec.) ¶ 3). DuPont states that “[s]lurry qualification can take a series of steps” and that “[b]ased on her experience, DuPont Applications Engineering Manager Shannon Williams estimated that the [[

]] at a domestic, Tier 1 customer location, took [[
]] months for full qualification.” *Id.* at 27-28 (citing App. A (Williams Dec.) ¶¶ 3-7).

DuPont dismisses CMC’s allegation that “[t]here are numerous like or directly competitive articles that could replace the infringing articles” and contends that “CMC offered little factual support for its assertion.” *Id.* at 30. DuPont explains that “‘like’ and ‘competitive’ are not synonymous with ‘substitutable’” and that “the substitution of CMC’s old technology SS25 product for a more advanced CMP slurry, such as an Optiplane™ 2300 slurry, would not be viable since it would lower yields and reduce semiconductor plant output.” *Id.* (citing App. A (Williams Dec.) ¶ 8). DuPont asserts that “CMC has also failed to show that these alleged replacement products can actually serve as commercially acceptable substitutes for DuPont’s Optiplane™ CMP slurries” and that “[t]he mere existence of other slurry products in the marketplace, such as ceria slurries, fumed silica slurries, and non-accused colloidal silica

slurries, does not make them *commercially acceptable* substitutes, nor does it speak to the time, expense or feasibility of making such substitutions.” *Id.* at 30-31 (emphasis by DuPont).

According to DuPont, “substituting a ceria slurry for an accused Optiplane™ slurry would require replacing the customer’s CMP slurry delivery system due to adverse reactions between ceria and colloidal silica particles in customer slurry delivery systems” and that “[u]nlike other cases before the Commission, industry standards do not apply to CMP slurries.” *Id.* at 31 (citing App. A (Williams Dec.) ¶ 9). DuPont contends that “[w]hile CMC identifies some companies that have tested its DI Products, it provides no evidence that those products have been considered by customers for the same applications as DuPont’s Optiplane™ 2300 and 2600 products.” *Id.*

DuPont states that if “[it] cannot manufacture its CMP products due to an exclusion order prohibiting the importation of BS-3 particles from Fuso, the public health and welfare, and U.S. consumers, will suffer” because “CMP is an essential step in semiconductor manufacturing processes.” *Id.* at 32. According to DuPont, the shortage in semiconductor chips “is particularly concerning given their widespread use across the U.S. economy, including in medical devices, advanced research, healthcare, clean energy, and military systems.” *Id.* at 33.

c) Intel’s Submission

Intel submitted a statement on the public interest asserting that “[t]he breadth and timing of the proposed exclusion and cease and desist orders would not serve the public interest under the unique circumstances of the current security, technology, and economic environment.” Intel Sub. at 1. Intel states that it uses [[

]]. *Id.* at 3-4. Specifically, Intel explains that [[

]] and that [[

]]] *Id.* at 3-4. Intel states that [[

]]] *Id.* at 4 (citing 2d Tufts Decl. ¶¶ 13-14). According to Intel, [[

]]] *Id.* This, Intel argues, [[

]]] *Id.* Intel states that [[

]]] *Id.* (citing 2d Tufts Decl. ¶ 15).

Intel explains that “[it] and other suppliers of semiconductor chips to the United States are experiencing a pronounced and extended shortfall in the supply of their products” that is “expected to last more than a year and likely longer” and that “DuPont is an established domestic source of the targeted Optiplane slurry, [[

]]] after having subjected Optiplane to a rigorous qualification and integration process.” *Id.* Intel states that “[a]t this point, [[]] cannot switch to an alternative slurry [[]]] without first undergoing a lengthy requalification and characterization process” and that “[o]ther U.S. semiconductor makers will be in a similar position.” *Id.* Intel asserts that “[i]mposing immediate and steep switching costs [[

]]] for an important manufacturing input is not justified in the current environment.” *Id.*

Intel also contends that “[a]n unfortunate reality is that the semiconductor chips now used in the U.S. are overwhelmingly made elsewhere” and that “the U.S. share of semiconductor manufacturing has steadily declined over three decades from 37% in 1990 to only 12% today.” *Id.* at 2 (citing Tufts Decl. ¶ 4). Intel states that “[t]he U.S. has lost share to nations with governments that have aggressively promoted development of manufacturing capacity within their own borders” and that “[i]n 2021, without any assurance of government support or incentives, Intel announced a focused initiative to strengthen U.S. chip fabrication—including a \$20 billion investment to build two new chip production plants in Arizona, which will create 3,000 permanent high-tech jobs, 3,000 construction jobs and 15,000 other long-term jobs in adjacent parts of the economy.” *Id.* at 3. According to Intel, “[it] has also begun a \$3.5 billion plant upgrade in New Mexico” and has “announced that it will open its chip manufacturing plants to build chips designed by others in addition to Intel’s own products.” *Id.* (citing Tufts Decl. ¶4, 7). Intel asserts that “[its] attempts to spur more U.S.-based semiconductor manufacturing, and its business generally, contribute substantially to the U.S. economy” and “also protect U.S. national security by providing cutting edge chip technology to the Department of Defense without reliance on foreign sources.” *Id.*

Intel states that because it “is the largest semiconductor chip manufacturer in the U.S., the breadth and complexity of its input supply chains highlight the size of the challenge U.S. semiconductor makers face to avoid output shortages.” *Id.* at 4. Intel explains that “[it] has more than 9,000 suppliers from which it obtains equipment, materials, and services” and that “[b]ecause those inputs are all essential, Intel regularly confronts thousands of ways in which the output from its fabrication plants can go wrong.” *Id.* (citing Tufts Decl. ¶ 9). Intel further explains that “[t]he technical complexity of its manufacturing sequences means that when forced

to switch sources for a given process input, Intel inevitably incurs high switching costs” because “[t]he products and processes are so sensitive that slight differences between materials at the molecular level must be fully characterized and controlled for substitution to succeed.” *Id.* According to Intel, “[i]t typically takes [it] multiple calendar quarters to complete requalification of new input sources” and that “[t]he resulting diversion of engineering and financial resources is significant and non-recoverable.” *Id.* at 4-5 (citing Tufts Decl. ¶¶ 10, 11). Intel states that “[t]o mitigate its supply chain risks, [it] attempts to have multiple qualified sources for essential inputs” so that “if one source becomes unavailable, Intel can rely on already qualified alternatives and minimize threats to its operations.” *Id.* at 5.

Intel asserts that “banning DuPont’s Optiplane Slurry will eliminate a reliable U.S. supply source [[]]] chip development and manufacturing capability.” *Id.* Intel explains that “DuPont manufactures and supplies [[]]] Optiplane slurry from within the United States” and that “[a]s with all other manufacturing inputs, [[

]]” *Id.* Intel asserts that [[]]] and so [[]]] without following an exacting and time-consuming qualification process to fully characterize and fine tune process control parameters and CMP procedures [[]]] *Id.* at 5-6 (citing Tufts Decl. ¶¶ 12, 13). Intel contends that [[

]] and [[]]] *Id.* at 6. Intel argues that “[a]bruptly removing an

established source of supply, [[
]] would undermine the public's interest inherent in an industry critical to national security and commerce" and that "[i]f a remedy does issue, the effective date should be postponed for several quarters permitting Optiplane users to adjust their processes without significant cost and disruption." *Id.* (citing Tufts Decl. ¶¶ 11-13).

In reply to the Commission's request for additional information, Intel states that "banning Optiplane slurries from U.S.-based semiconductor chip fabrication lines without a 24-month transition period could conflict with national security and economic interests in sustaining and enhancing domestic semiconductor chip manufacturing." Intel R.Sub. at 1. Intel explains that to mitigate against disruptions in its operation, it [[

]] *Id.* (citing 2d Tufts Decl. ¶ 4). Intel also submitted the so-called PI Document, which is [[

]] *Id.* at 2. Intel states that the [[

]] *Id.* Intel explains that [[

]] and [[

]] *Id.* at 2-3. According to Intel, [[

]] *Id.* at 3 (citing 2d Tufts

Decl. ¶ 6). Finally, Intel contends that [[

]] *Id.* (citing 2d Tufts Decl. ¶ 7).

Regarding whether [[

]] Intel states that “[a]t this late date, [[

]] and that [[

]] *Id.* at 6.

d) OUII's Submission

OUII states that “OUII is of the view that particularly in view of the current chip shortage environment, Intel raises valid concerns that reasonably support delayed implementation of any LEO for a time period sufficient to permit Optiplane users to qualify new CMP slurries for

semiconductor manufacturing, and that such a delay would not be inconsistent with past practices in prior investigations.” OUII R.Sub. at 11 (citing *Certain Digital Models, Digital Data, & Treatment Plans*, Inv. No. 337-TA-833, Comm’n Op. at 10 n.13 (June 11, 2014) (“[W]e have tailored our remedial orders to accommodate public interest considerations where appropriate. For example, in *Certain Personal Data and Mobile Communications Devices and Related Software*, Inv. No. 337-TA-710 (‘Personal Data Devices’), we delayed the implementation of our exclusion order to a vulnerable customer of the respondent, to transition to other products. In the present investigation, we tailored the cease and desist orders to accommodate existing ClearCorrect customers in order to mitigate harm to U.S. consumers.”)).

OUII states that “[r]elatedly, delaying implementation of any remedial orders will help avoid adversely impacting the public interest by providing additional time for the conditions contributing to the existing chip shortage to alleviate or dissipate, and allowing chip producers to expand their manufacturing capabilities in the interim.” *Id.* (citing Intel Brief, Tufts Decl. ¶ 6 (explaining the “shortage of semiconductor chips available in the United States” is the result of numerous contributing causes, both related and unrelated to the pandemic); *id.* ¶ 8 (estimating the “current chip shortages in the U.S. will persist beyond 2022” and stating that expanding manufacturing capacity can help address the chip shortage, but such “capacity increases will require multiple years” to be realized)).

2. The Public Interest Warrants a One-Year Delay for Current Ongoing Semiconductor Chip Fabrication Development Projects in the United States

The Commission finds that the public interest factors warrant a limited delay of up to one year for [[]]] entities that are currently using the infringing Optiplane™ slurries in an ongoing and documented project to develop fabrication processes for the production of semiconductors in the United States. This delay is solely for the purpose of enabling these

projects to transition to non-infringing slurries. *See* 19 U.S.C. §§ 1337(d), (f).²⁰ However, the public interest factors do not warrant denying any remedy for the violation of section 337 that we have found.

i. Public Health and Welfare

The public interest arguments raised by DuPont and Intel, including with respect to public health and welfare, concern the current global shortage of semiconductor chips. The evidence indicates that there is such a shortage.²¹ The duration of the shortage is uncertain, but it is currently impacting availability of many end-use products, with a possible attendant negative impact on public welfare. Any impact that a remedy in this investigation would have upon the shortage is more appropriately considered under the competitive conditions in the United States economy and United States consumers factors. The record speaks in broad, general terms about the importance of semiconductor chips in such areas as medical devices, advanced research,

²⁰ As discussed below, there is no evidence in the record that any entity is currently using the infringing slurries for the commercial production of semiconductors in the United States.

²¹ Dupont cites several publicly available sources recounting the global shortage of semiconductor chips. *See* DuPont Sub. at vi (citing *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth, 100-Day Reviews under Executive Order 14017*, A Report by The White House (June 2021) (available at <https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf>) (“White House Report”); Time, *From Cars to Toasters, America’s Semiconductor Shortage Is Wreaking Havoc on Our Lives. Can We Fix It?*, Andrew Blum (June 28, 2021) (available at <https://time.com/6075425/semiconductor-chip-shortage/>); Reuters, *U.S. Commerce chief: Aggressive’ action on chip shortage needed*, David Shepardson, (Sept. 23, 2021) (available at <https://www.reuters.com/business/us-commerce-chief-aggressive-action-chipshortage-needed-2021-09-23/>); Wall Street Journal, *Intel CEO Says Chip Shortage Could Stretch Into 2023*, Asa Fitch (July 22, 2021) (available at <https://www.wsj.com/articles/intel-intc-2qearnings-report-2021-11626899296>); Newsweek, *Here’s How the Semiconductor Chip Shortage Has Impacted Every U.S. Automaker So Far*, James McCandless (Sept. 23, 2021) (available at <https://www.newsweek.com/heres-how-semiconductor-chip-shortage-hasimpacted-every-us-automaker-so-far-1629562>). Complainant CMC also acknowledges this shortage. *See, e.g.*, CMC Sub. at 22-23 (citing Ex. H (Vander Veen Dec.) ¶¶ 9, 15).

healthcare, and clean energy, but it does not offer evidence or specifics with regard to how the elimination of the specific infringing articles at issue in this investigation would translate into concrete impacts to those industries. Thus, any downstream impact on advanced research, healthcare, clean energy, or other areas related to public health and welfare, is not developed in the current record and is speculative.

Therefore, in this particular investigation based on the record before the Commission, we find that the impact of remedial orders on the public health and welfare does not weigh in favor of denying relief or weigh in favor of our decision that relief should be tailored.²²

ii. Competitive Conditions in the United States Economy

In its briefing questions regarding the public interest, the Commission specifically asked Intel to “identify what portion of Intel’s U.S. production would be affected by exclusion of the accused products.” *See Notice of Commission Determination Requesting Certain Information from Intel and Directing Intel to Produce Document Allegedly Bearing on the Public Interest; Extension of the Target Date*, at 3 (Nov. 2, 2021). Intel did not answer this precise question but instead stated that [[

]] Intel R.Sub at 3-4. Intel further explains that it [[

²² Chair Kearns believes the public welfare factor could support tailored relief in this investigation. As a general matter, having a healthy domestic semiconductor manufacturing industry benefits the public welfare, and hampering such an industry is harmful to the public welfare. For the reasons discussed below for competitive conditions in the United States economy and United States consumers, not giving [[

]] a reasonable time to transition their research and development from the infringing Optiplane™ products to other CMP slurries could have a negative effect on the public welfare. However, given the lack of a well-developed record and arguments on this point, he does not rely on the public welfare factor to support tailored relief.

]] manufacture and evaluate “test chips” and [[
]] *Id.* Thus, the record indicates that [[

]] Intel notes
that [[
]] *Id.* at 4.

The record also contains some information that other third parties are using Dupont’s Optiplane slurries to some degree in small amounts. DuPont asserts that “[n]umerous semiconductor companies, including [[
]] use DuPont’s Optiplane™ CMP slurries.” DuPont Sub. at 25. DuPont asserts that it “sells and/or provides samples of the Accused Products to customers and others in the United States, including [[

]] as explained by Mr. Van der Velden at 35:3-7 of his deposition.” CX-0006C (Dauskardt DWS) at Q/A 198 (citing (CX-0019C (Van der Velden Dep.))). Mr. Van der Velden testified that [[]] started with using OP2300 and most recently sampled OP2602 (at 35:8-14); that [[]] is purchasing OP2602 and using it for an [[]] application in [[]] (at 20:16-21:7 and 23:15-18); that [[]] is testing and running low-volume early production using OP2300A in [[]] (at 42:15-17); and that [[]] has also been receiving samples of and testing OP2602 in [[]] (at 105:14-106:4).²³ CMC states that “several of [[

]] CMC Sub. at 18, that [[

²³ The Commission notes that citation to the deposition transcripts by Dr. Dauskardt does not always align with citation of the transcript in the record.

]] *id.* at 15, and that [[

]] *Id.* at 25-26

(citing CX-0015C (McDavitt Dep. Designations) at 87:21-88:12 [[

]] Ex. I (Dauskardt Dec.) ¶

10)). The record shows that [[]] volumes of the infringing Optiplane™ slurries have been purchased and sampled or tested by [[]] in the United States. *See, e.g.*, JX-0392C; CX-0015C (McDavitt Dep.) at 83:17-25; 84:15-25; 150:3-151:4; 90:17-93:2; CX-0019C (Van der Velden Dep.) at 172:14-18; 34:9-17, 34:24-35:7; 103:12-15, 103:20-104:10.

Neither the private parties nor OUII submitted evidence detailing how companies [[]] allegedly use the infringing Optiplane™ slurries; for example, whether they are used [[]] or otherwise. The only record evidence addressing this question is addressed in the preceding paragraph. However, based on this evidence it appears that use by [[]] is consistent with uses related to semiconductor chip fabrication development. *See* CMC Sub. at 25-26; JX-0392C (showing volumes of Optiplane slurries shipped to [[]]) CX-0019C, Tr. at 172:7-8 (testifying [[]]) CX-0015C, Tr. at 90:17-93:2 (testifying that [[]]) There may also be use by others consistent with semiconductor chip fabrication development but the record does not inform us as to the extent or nature of use by any other recipient of the infringing slurries.²⁴ The record shows, and DuPont does not dispute, that the use of the infringing slurries

²⁴ No third parties other than Intel came forward to present evidence or concerns regarding the public interest.

by companies [[]] is minimal: as of [[]] Dupont's infringing slurries comprised [[]] for the infringing slurries, and the volume of Optiplane™ purchased by [[]] CMC Sub. at *id.* at 26-27 (citing JX-0286C (DuPont Marketing Material) at 7); Dupont Sub. at 27; JX-0392C. There is no evidence that any U.S. semiconductor manufacturer is using the infringing products for current production or that any has plans to do so in the near future.

The record shows that there are several available substitutes for the infringing products, although there is a cost in time and money to substitute one CMP slurry for another. As CMC points out, its DI Products are readily available substitutes for the infringing articles and [[]]

[[]] Complainant's Public Interest Statement at Ex. A (Woodland Dec.) ¶ 4. CMC explains that “[t]he DI Products are necessarily suitable substitutes because they, like Respondents' infringing articles, practice the asserted claims and are substantially similar acidic CMP slurries intended for dielectric applications with silica particles having a positively charged internal chemical species.” *Id.* While Intel states that it [[]] without following an exacting and time-consuming qualification process to fully characterize and fine tune process control parameters and CMP procedures [[]] it acknowledges that [[]] Intel Sub. at 5. Intel states that [[]] *Id.* Intel acknowledges that [[]] Intel R.Sub at 2, which [[]]

at 2.

CMC also markets other alternative CMP slurries including “CMC’s SS25 product, a fumed silica-based slurry for dielectric applications that has [[

]] CMC’s Public Interest Statement at Ex. A

(Woodland Dec.) ¶ 3; Ex. I (Dauskardt Dec.) ¶ 9; *see also* JX-0286 (DuPont Marketing Material) at 4, 5.

The Commission finds that while an immediate exclusion of the BS-3 particles used in producing Optiplane™ slurries will adversely impact competitive conditions in the United States, this impact can be addressed by tailoring the remedial relief with a one-year delay. Specifically, the record shows that immediate exclusion will hamper [[

]] which in turn could impact the future supply of semiconductors in the United States and exacerbate or prolong the semiconductor chip shortage at some point in the future. As reviewed above, [[

]] Intel explains that finding a replacement slurry [[
]] would take time given that subtle variations in slurry chemistry can impact [[]]
]] See 2d Tufts Decl. ¶¶ 9-11. Qualifying a new slurry for use in an ongoing chip fabrication line is a time-consuming process. *Id.* According to Intel, [[
]] and that [[

]]

Intel R.Sub. at 4 (citing 2d Tufts Decl.). This, Intel argues, [[

]] *Id.*

While Intel seeks a two-year delay of remedial relief to account for the impact to the public interest factors, Intel acknowledges that [[

]] *Id.* (citing

2d Tufts Decl. ¶ 15 ([[

]])). Intel has also stated that “[i]t typically takes Intel multiple calendar quarters to complete requalification of new input sources.” Intel Sub. at 5. The two-year period Intel seeks is [[

]] Intel R.Sub. at 2-3.

However, there is no evidence that it would require 24 months [[]] to qualify a replacement slurry; rather, the evidence, discussed above, points to a shorter period.²⁵ We also note that [[]] was or should have been aware of the possibility that the Optiplane™ slurries may become unavailable since, at least, the institution of this investigation on July 7, 2020. *See* CMC I.Reply at 26. In addition, the final ID finding a violation and recommending remedial relief issued on July 8, 2021. Given that [[]] has had many months’ notice of the possibility

²⁵ The Commission notes that the [[]] do not bind the Commission. Further, [[]] and does not specifically address the time it would take for Intel to substitute for [[]] Thus, while [[]] is not determinative of the delay the public interest warrants in this investigation.

of remedial orders in this investigation, the fact that [[
]] and its statements on [[
]] the Commission
finds that a one-year delay in implementing the orders provides adequate time for [[
]] to switch to a non-infringing slurry.²⁶
As discussed below in section 2.vi, in order to use the exemption [[
]] will need to complete the questionnaire attached to the remedial orders, which will
require it to provide certain information and certify its need to continue receiving infringing
Optiplane™ for ongoing semiconductor chip fabrication development projects. As discussed
above, we find that the record does not support the conclusion that any company uses Dupont's
infringing Optiplane™ slurries in the commercial production of semiconductors in the United
States. As also discussed above, however, it appears from the record that there may also be uses
by third parties [[
]] consistent with uses related to semiconductor chip fabrication
development. Thus, if other companies are actively using Dupont's infringing slurries in
semiconductor development [[
]] they can also benefit from a one-year
delay by completing the questionnaire.

iii. The Production of Like or Directly Competitive Articles in the United States

DuPont's own marketing materials identify like and directly competitive CMP slurries in
the United States. These include products from CMC, non-accused products from DuPont, and
products from third parties like [[
]] JX-0286 (DuPont Marketing
Material) at 4-7. The Commission further notes that neither the private parties, OUII, nor any

²⁶ We also note that DuPont presented an example in which it took [[
]] months for a customer to shift its slurry system. DuPont Sub. at 27-28 (citing App. A (Williams Dec.) ¶¶ 3-7).

third party or interested government agency, submitted information in the record regarding what impact, if any, the exclusion of subject articles might have on domestic production of like or directly competitive articles. The Commission finds that the record does not show that remedial relief will adversely impact the production of like or directly competitive articles in the United States, and thus this factor does not weigh against issuance of a remedy nor does it weigh in favor or against delaying a remedy here.

iv. United States Consumers

As elaborated above, continued short-term access by [[
]] to the infringing articles, as needed for [[
]] is important to competitive
conditions in the United States. Since [[
]] of the infringing articles, the U.S
consumers factor in the present investigation largely takes into account the same considerations
that have previously been discussed with regard to the competitive conditions in the United
States factor.

As discussed earlier, the record indicates that there are other direct U.S. consumers of the
infringing articles that may be impacted by immediate relief in this case. In addition, immediate
exclusion of the infringing articles without tailoring risks negatively impacting consumers
(manufacturers and end users) [[
]] The record
shows that “[w]ith ever-shrinking transistor sizes, [[

]] Intel
R.Sub. (Tufts Declaration at 12). The evidence shows that [[
]] Thus,

immediately barring entry of the infringing products risks lengthening [[

]]

For these reasons, the Commission finds that while the impact of a remedy on U.S. consumers does not weigh in favor of denying a remedy, a limited delay is warranted to allow time [[]]] to switch to non-infringing slurries and thereby continue semiconductor chip fabrication development efforts.

v. Conclusion

After assessing the statutory public interest factors and the record evidence, the Commission has determined that a one-year delay in the effective date of the order is warranted to allow [[]]] to qualify and switch to non-infringing slurries for existing semiconductor chip fabrication development efforts.^{27, 28} While [[]] of the infringing slurries to raise public interest arguments, the Commission has determined that the delay provision should apply to [[]]] purchasers of the infringing Optiplane™ slurries that are actively using the product in an ongoing

²⁷ The record in this investigation, however, does not show that the impact of the remedial orders on the public interest factors warrants a total denial of relief.

²⁸ The Commission finds DuPont's reliance on Executive Order 14017 and the U.S. Innovation and Competition Act to argue against any remedial orders unpersuasive because, while they address the semiconductor chip manufacturing sector as a whole, neither the Act nor Executive Order mentions or expresses any particular concerns about the supply of CMP slurries, nor do they specifically address the particular public interest considerations that the Commission is statutorily charged with considering. Indeed, Intel does not contend that CMP slurries are unavailable. Rather, Intel argues that [[]] will have to expend significant, unrecoverable resources to do so. Intel Sub. at 1 ("At this point, [[]] cannot switch to an alternative slurry [[]] without first undergoing a lengthy requalification and characterization process.").

semiconductor chip fabrication development project. As described below, the Commission requires evidence that a company is actively using the infringing Optiplane™ 2300 or 2600 slurry in ongoing semiconductor fabrication development in order to obtain an exemption from the remedial orders during the one-year delay period.

vi. Certification Process to Qualify for the One Year Exemption for Ongoing Semiconductor Chip Fabrication Development

As explained above, upon consideration of the public interest factors, the Commission has determined to tailor the remedy granted in this investigation to allow continued importation and sale of the infringing articles for a period of one year upon provision of certain certified information. [[]] entity seeking to take advantage of the exemption to the remedial relief will be required to provide a certified, documented need to continue receiving the infringing Optiplane™ for an identified current semiconductor chip fabrication development project. Upon such certification, Respondents can continue to provide Optiplane™ slurry (and continue to import infringing particles to produce that slurry) for use in semiconductor chip fabrication development projects that have been ongoing as of the date of the issuance of the Commission's orders.

The Commission's remedial orders include as an attachment a brief questionnaire that DuPont is to provide to its customers for purposes of obtaining the infringing products under this exemption.²⁹ DuPont may provide a modified version of that questionnaire to its customers, but whatever documentation it uses must request from its customers at least the information

²⁹ The Commission imposed a similar requirement in *Certain Microfluidic Devices*, Inv. No. 337-TA-1068 and *Certain Microfluidic Systems*, Inv. No. 337-TA-1100. In those investigations, the Commission similarly found that public interest considerations warranted a tailored remedy that allowed current users of the infringing products for medical research to certify their need to continue such use.

requested in the attached questionnaire using the verbiage as it appears in the questionnaires.

The questionnaire requests an entity to identify the commencement date of the fabrication development project using the Optiplane™ slurry and a description of the specific project in which the Optiplane™ slurry is currently being used. To qualify for the exemption, the customer must attest in the questionnaire that the use of the Optiplane™ slurry in an actual ongoing development project began prior to the date of issuance of the remedial order. The questionnaire also requires both DuPont and its customers to certify the veracity of their statements and to acknowledge their understanding of the legal consequences of being untruthful. CBP may require that the questionnaires be submitted in advance of the date of entry of infringing product and pursuant to procedures that CBP establishes. In addition, customers who avail themselves of this exemption are required to maintain records to support their declarations in case an audit is carried out or such records are required for any future enforcement proceeding.

D. Bond

If the Commission enters an exclusion order and/or cease and desist order, a respondent may continue to import and sell its products during the 60-day period of Presidential review subject to posting a bond. 19 U.S.C. § 1337(j)(3). The amount of the bond is specified by the Commission and must be sufficient to protect a complainant from any injury. *Id.*; 19 C.F.R. §§ 210.50(a)(3), 210.42(a)(1)(ii). “The Commission typically sets the bond based on the price differential between the imported infringing product and the domestic industry article or based on a reasonable royalty. However, where the available pricing or royalty information is inadequate, the bond may be set at one hundred (100%) percent of the entered value of the infringing product.” *Loom Kits*, Comm’n Op. at 18 (citations omitted). The Commission has set a one hundred (100%) percent bond in cases where respondents have defaulted and provided no

discovery regarding pricing, precluding any reliable determination of an appropriate bond amount. *See id.* at 19.

The ALJ recommended that the Commission set a bond in the amount of one hundred (100%) percent of entered value for products imported during the period of Presidential review. ID/RD at 330-31. In making this recommendation, the ALJ stated that “CMC has shown that (1) competitive harm could occur during the Presidential review period; [[
]]

Id.

The Commission finds that the record evidence supports the ALJ’s recommendation and has determined to set the bond in the amount of one hundred (100%) percent of entered value for infringing products imported during the 60-day period of Presidential review.

V. CONCLUSION

For the reasons detailed above, the Commission has determined to affirm the ID’s finding of a violation of section 337. Regarding the issues under review, the Commission has determined to affirm the ID’s importation, infringement, and domestic industry findings with the modifications described above. Regarding remedy, the Commission has determined to: (1) issue a limited exclusion order prohibiting the unlicensed importation of chemical mechanical planarization slurries that include colloidal silica abrasive particles and colloidal silica abrasive particles that infringe one or more of claims 1, 3–6, 10, 11, 13, 14, 18–20, 24, 26–29, 31, 35–37, and 39–44 of the ’721 patent that are manufactured abroad by or on behalf of, or

imported by or on behalf of, DuPont, or their affiliated companies, parents, subsidiaries, or other related business entities, or their successors or assigns, from entry for consumption into the United States; (2) issue cease and desist orders directed to the domestic DuPont respondents, *i.e.*, DuPont de Nemours, Inc. of Wilmington, Delaware; Rohm and Haas Electronic Materials CMP, LLC of Newark, Delaware; and Rohm and Haas Electronic Materials LLC of Marlborough, Massachusetts; (3) find that the public interest does not preclude the issuance of remedial orders but warrants a one-year delay to allow entities currently using the infringing products in an ongoing semiconductor chip fabrication development project adequate time to switch to a non-infringing alternative; and (4) set the bond in the amount of one hundred percent (100%) of the entered value of the imported infringing products during the period of Presidential review.

By order of the Commission.

Issued: January 6, 2022.



Lisa R. Barton,
Secretary to the Commission.